

DEPARTMENT OF THE INTERIOR, CANADA

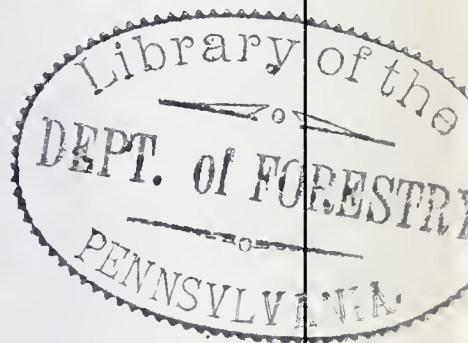
HON. CHARLES STEWART, Minister; W. W. CORY, Deputy Minister

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FORESTRY BRANCH

E. H. FINLAYSON, Acting Director of Forestry

# Lodgepole Pine



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A LODGEPOLE PINE

The lodgepole pine of the West occupies a place corresponding to that of the jack pine in the East. It gets its name from its use by the western Indians for the poles of their tepees, or lodges. It is a prolific seeder, and is one of the first species to come in on burned-over areas; hence large areas are now covered with stands of this species. It is used largely for railway ties, mine-props, and poles. It is now being used also in the making of boxes, and is useful for light construction and interior finish. It can also be used to make wood-pulp of good quality.

## LODGEPOLE PINE

## *Pinus Murrayana*

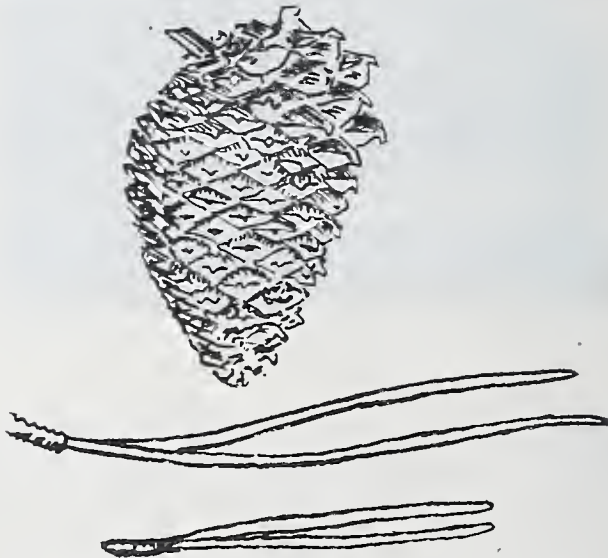
*Common names:* Lodgepole pine, black pine, scrub pine, shore pine, western jack pine, cypress (southern Alberta and Saskatchewan), white pine (Alberta).

*French name:* Pin de Murray.

The lodgepole pine has a very wide range. In Canada it extends over the whole of British Columbia and into the Yukon territory on the north and the western part of Alberta on the east. Isolated stands are also found on the Cypress hills in the southern portions of the provinces of Alberta and Saskatchewan. In the United States the tree extends southward to southern California.

### HABIT AND CHARACTERISTICS

The lodgepole pine is extremely variable in its characteristics. In the western part of its range near the Pacific coast, it is ordinarily 20 to 40 feet high and 6 to 20 inches in diameter, while farther east it is 50 to 75 feet high with a diameter of 12 to 24 inches. The eastern trees usually form dense stands and develop a tall, clean, slender trunk, while those near the coast are shorter and more branchy. On account of its variable character botanists at first attempted to establish specific differences between these two types. The scrubby coast type being known as *Pinus contorta* or *Pinus contorta Murrayana*. As the tree was more thoroughly studied throughout its entire range it was found that the distinctions set up did not hold when generally applied, and it may, therefore, for practical purposes be considered a single species.



Cone and needles of Lodgepole Pine. (Natural size)



The coast form is usually known by the names "scrub pine," "shore pine," or "jack pine." The mountain, or eastern form, is usually called by its very appropriate name "lodgepole pine," since the very dense young stands of this tree provided the Indians with slim poles for their lodges or tepees.

The foliage of the lodgepole pine is a yellowish green. The leaves are borne in bundles of two and are from 1 to 3 inches long—ordinarily about 2 inches. Those of the coast type are as a rule shorter and less thick than those of the eastern type.

The cones are from three-quarters of an inch to 2 inches in length. The scales are tipped with a prickle. Cones frequently adhere to the branches for a great many years after maturing. They ripen in the late autumn and on many trees may remain closed for a number of years, although on other trees in the same locality they will open and shed their seed. Cones are frequently produced on young trees from 7 to 10 years old.

The thickness of the bark is variable. Throughout its western range it is 1 inch thick, reddish-brown, and deeply furrowed. Throughout the eastern part of its range it is thinner, greyish-brown, and comparatively smooth.

In the region about Lesser Slave lake in Alberta the lodgepole pine meets the jack pine (*Pinus Banksiana*), which it closely resembles. The foliage, however, is darker than that of the jack pine and has the appearance of being more bunched in plume-like clusters at the end of the twigs. The cones, too, differ considerably, in that the mature jack pine lacks the prickle at tip of the scale.

#### OCCURRENCE AND REPRODUCTION

The lodgepole pine prefers sandy moist slopes and plateaus, but is found growing on a wide variety of soils. Although not a timber-line tree it is to be found well up the mountains to an altitude of from 5,000 to 6,000 feet. It is the predominating species over large areas, since its extreme hardiness and ability to reproduce itself after fire have enabled it in many places to replace the original stands of fir, Engelmann spruce, yellow pine, and balsam fir. The fact that it produces cones at an early age and that the heat of fires frequently assists in opening the cones and thus liberating the seed give the tree a decided advantage in the struggle for existence. Although on the whole very intolerant if shaded, especially when young, this tree is able to exist in very dense stands for a considerable time. If thinning is not too long delayed it is capable of recovering and making rapid growth. It is, as a rule, rather shallow-rooted, and if a stand is too heavily thinned the remaining trees are apt to be wind-thrown.

## THE WOOD: QUALITIES AND USES

The wood of lodgepole pine is coarse, fairly soft, stiff, and normally straight-grained. The heartwood is yellow or yellowish brown in colour and the sapwood paler, sometimes almost white. In strength it is practically equal to western yellow pine and exceeds Englemann spruce and alpine fir. It produces stronger poles than red cedar, but not so durable in contact with the soil.

Lodgepole pine is chiefly used for railway ties, mine-props, and poles. It has not in the past been used to a great extent in the manufacture of lumber, for the reason that there has been sufficient timber of larger species available. Most of the lodgepole pine stands are still young and have not reached merchantable size. Prejudice has also had much to do with the lack of appreciation of its value. It is a useful wood for light construction and finish, especially where the surface is to be painted, and it is beginning to become important as box material, for which the fruit industry of British Columbia provides an increasing local market. Recent investigations have shown that it may become a valuable species for the manufacture of pulp. With a slight modification of the processes now in use, it can be used commercially for this purpose.

Although exact figures are not available it has been estimated that the total stand of lodgepole pine in Canada at present comprises 13,050,000 feet board measure of saw-timber size and some 50,000,000 cords of smaller material.

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